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10/599,466	09/29/2006	Bernardus H.W. Hendriks	GB 040082	9397

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EXAMINER

MARTINEZ, JOSEPH P

ART UNIT

PAPER NUMBER

2873

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/599,466

**Applicant(s)**

HENDRIKS ET AL.

**Examiner**

JOSEPH MARTINEZ

**Art Unit**

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 21-28 is/are rejected.
- 7) ☒ Claim(s) 19 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date 10-9-07
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-8, 12, 13, 16-18 and 21-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berge et al. (6369954) in view of Mitani et al. (5612085).

Re claim 1, Berge et al. teaches for example in fig. 1 and 6, a method of reducing or substantially eliminating the occurrence of ghost images in a variable focus lens comprising a housing (12) in which is provided a first fluid (13) and a second fluid (11), the fluids being non-miscible (abstract), in contact over a meniscus (A, B) and having different indices of refraction (col. 7, ln. 3-6), the shape and/or position of said meniscus being variable so as to selectively control the lens function of said variable focus lens (col. 3, ln. 36-39), a portion of the inner wall of said housing being contactable by said meniscus during operation (fig. 6), which portion of said inner wall is substantially smooth (fig. 6), the method comprising configuring or altering the optical properties of at least a portion of the wall of said housing (col. 6, ln. 55-58).

But, Berge et al. fails to explicitly teach reduce the reflectivity thereof.

However, Berge et al. further teaches for example in fig. 1 and 6, covering the chamber with a thin coating of fluorinated polymer (col. 6, ln. 55-58). Furthermore, within the same field of endeavor, Mitani et al. teaches for example in fig. 1 and 6A-C, reduce the reflectivity thereof (abstract) with a fluororesin compound. The examiner interprets the thin coating of fluorinated polymer to be equivalent to the fluororesin compound and therefore teaches the claimed limitation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Berge et al. with the teachings of Mitani et al. in order to provide high contrast, as taught by Mitani et al. (col. 1, ln. 38-39).

Re claim 2, Mitani et al. further teaches for example in fig. 1 and 6A-C, the optical properties of the inner and/or outer wall of the housing, and/or the bulk of the wall of the housing is configured or altered so as to at least reduce the reflectivity thereof (abstract).

Re claim 3, Berge et al. further teaches for example in fig. 1 and 6, the housing (12) is formed of a substantially transparent material (fig. 1), and wherein at least a portion of the outer surface of said housing is provided with a coating or layer (col. 6, ln. 55-58).

But, Berge et al. fails to explicitly teach the coating is light-absorbing.

However, Berge et al. further teaches for example in fig. 1 and 6, covering the chamber with a thin coating of fluorinated polymer (col. 6, ln. 55-58). Furthermore, within the same field of endeavor, Mitani et al. teaches for example in fig. 1 and 6A-C, reduce the reflectivity thereof (abstract) with a fluororesin compound. The examiner interprets the thin coating of fluorinated polymer to be equivalent to the fluororesin compound and therefore teaches the claimed limitation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Berge et al. with the teachings of Mitani et al. in order to provide high contrast, as taught by Mitani et al. (col. 1, ln. 38-39).

Re claim 4, Berge et al. further teaches for example in fig. 1 and 6, at least a portion of the outer surface of the housing (12) is highly scattering (col. 6, ln. 47-48).

Re claim 5, Berge et al. further teaches for example in fig. 1 and 6, the outer surface of the housing (12) is coupled to an outer body (via endoscope housing; col. 7, ln. 15; wherein the examiner interprets the endoscope to teach an outer housing).

But, Berge et al. fails to explicitly teach a light-absorbing outer body.

However, Mitani et al. teaches for example in fig. 1 and 6A-C, a light absorbing outer body (2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Berge et al. with the teachings

of Mitani et al. in order to provide high contrast, as taught by Mitani et al. (col. 1, ln. 38-39).

Re claim 6, Berge et al. further teaches for example in fig. 1 and 6, the second fluid (13) is axially displaced from the first fluid (11; fig. 6).

Re claim 7, Berge et al. further teaches for example in fig. 1 and 6, the lens further comprises a first electrode (16) and a second electrode (17) wherein the shape of the meniscus (A, B) can be controlled in dependence on the application of a voltage between said first electrode and said second electrode (abstract).

Re claim 8, Berge et al. further teaches for example in fig. 1 and 6, the first electrode (17) comprises a conducting coating applied to the inner wall of the housing (12; fig. 6), and a coating (14) is provided between the inner wall of the housing and the electrode (fig. 6).

But, Berge et al. fails to explicitly teach the coating is light-absorbing.

However, Berge et al. further teaches for example in fig. 1 and 6, covering the chamber with a thin coating of fluorinated polymer (col. 6, ln. 55-58). Furthermore, within the same field of endeavor, Mitani et al. teaches for example in fig. 1 and 6A-C, reduce the reflectivity thereof (abstract) with a fluororesin compound. The examiner interprets the thin coating of fluorinated polymer to be equivalent to the fluororesin compound and therefore teaches the claimed limitation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Berge et al. with the teachings of Mitani et al. in order to provide high contrast, as taught by Mitani et al. (col. 1, ln. 38-39).

Re claim 12, Berge et al. further teaches for example in fig. 1 and 6, the housing is made of a translucent material (fig. 6).

Re claim 13, Berge et al. further teaches for example in fig. 1 and 6, a material is mixed through the housing material before it is molded into a housing (col. 6, ln. 55-58).

But, Berge et al. fails to explicitly teach the material is light-absorbing.

However, Berge et al. further teaches for example in fig. 1 and 6, covering the chamber with a thin coating of fluorinated polymer (col. 6, ln. 55-58). Furthermore, within the same field of endeavor, Mitani et al. teaches for example in fig. 1 and 6A-C, reduce the reflectivity thereof (abstract) with a fluoro-resin compound. The examiner interprets the thin coating of fluorinated polymer to be equivalent to the fluoro-resin compound and therefore teaches the claimed limitation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Berge et al. with the teachings of Mitani et al. in order to provide high contrast, as taught by Mitani et al. (col. 1, ln. 38-39).

Re claim 16, Berge et al. further teaches for example in fig. 1 and 6, the housing (12) is formed of an opaque, reflective material (col. 6, ln. 47-48).

Re claim 17, Berge et al. further teaches for example in fig. 1 and 6, at least the inner wall of the housing (12) is at least partially coated with an insulating material (col. 6, ln. 55-58).

Re claim 18, Berge et al. further teaches for example in fig. 1 and 6, the insulating material (col. 6, ln. 55-58).

But, Berge et al. fails to explicitly teach the material is light-absorbing.

However, Berge et al. further teaches for example in fig. 1 and 6, covering the chamber with a thin coating of fluorinated polymer (col. 6, ln. 55-58). Furthermore, within the same field of endeavor, Mitani et al. teaches for example in fig. 1 and 6A-C, reduce the reflectivity thereof (abstract) with a fluororesin compound. The examiner interprets the thin coating of fluorinated polymer to be equivalent to the fluororesin compound and therefore teaches the claimed limitation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Berge et al. with the teachings of Mitani et al. in order to provide high contrast, as taught by Mitani et al. (col. 1, ln. 38-39).



Re claim 21, Berge et al. further teaches for example in fig. 1 and 6, the housing (12) is formed of a colored metal (col. 6, ln. 25).

Re claim 22, Berge et al. further teaches for example in fig. 1 and 6, the housing (12) is made of a material (col. 6, ln. 55-58).

But, Berge et al. fails to explicitly teach the coating is light-absorbing.

However, Berge et al. further teaches for example in fig. 1 and 6, covering the chamber with a thin coating of fluorinated polymer (col. 6, ln. 55-58). Furthermore, within the same field of endeavor, Mitani et al. teaches for example in fig. 1 and 6A-C, reduce the reflectivity thereof (abstract) with a fluororesin compound. The examiner interprets the thin coating of fluorinated polymer to be equivalent to the fluororesin compound and therefore teaches the claimed limitation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Berge et al. with the teachings of Mitani et al. in order to provide high contrast, as taught by Mitani et al. (col. 1, ln. 38-39).

Re claim 23, Berge et al. further teaches for example in fig. 1 and 6, a variable focus lens comprising a housing (12) in which is provided a first fluid (13) and a second fluid (11), the fluids being non-miscible (abstract), in contact over a meniscus (A, B) and having different indices of refraction (col. 7, ln. 3-6), the shape and/or position of said meniscus being variable so as to selectively control the lens function of said variable

focus lens (col. 3, ln. 36-39), a portion of the inner wall of said housing being contactable by said meniscus during operation (fig. 6), which portion of said inner wall is substantially smooth (fig. 6), wherein the optical properties of at least a portion of the wall of said housing has been configured or altered (col. 6, ln. 55-58).

But, Berge et al. fails to explicitly teach reducing the reflectivity thereof.

However, Berge et al. further teaches for example in fig. 1 and 6, covering the chamber with a thin coating of fluorinated polymer (col. 6, ln. 55-58). Furthermore, within the same field of endeavor, Mitani et al. teaches for example in fig. 1 and 6A-C, reduce the reflectivity thereof (abstract) with a fluororesin compound. The examiner interprets the thin coating of fluorinated polymer to be equivalent to the fluororesin compound and therefore teaches the claimed limitation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Berge et al. with the teachings of Mitani et al. in order to provide high contrast, as taught by Mitani et al. (col. 1, ln. 38-39).

Re claim 24, Berge et al. further teaches for example in fig. 1 and 6, an image sensor (endoscope; col. 7, ln. 15) having a variable focus lens comprising a housing (12) in which is provided a first fluid (13) and a second fluid (11), the fluids being non-miscible (abstract), in contact over a meniscus (A, B) and having different indices of refraction (col. 7, ln. 3-6), the shape and/or position of said meniscus being variable so as to selectively control the lens function of said variable focus lens (col. 3, ln. 36-39).

But, Berge et al. fails to explicitly teach means for reducing or substantially eliminating the occurrence of ghost images in said variable focus lens.

However, Berge et al. further teaches for example in fig. 1 and 6, covering the chamber with a thin coating of fluorinated polymer (col. 6, ln. 55-58). Furthermore, within the same field of endeavor, Mitani et al. teaches for example in fig. 1 and 6A-C, reduce the reflectivity thereof (abstract) with a fluororesin compound. The examiner interprets the thin coating of fluorinated polymer to be equivalent to the fluororesin compound and therefore teaches the claimed limitation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Berge et al. with the teachings of Mitani et al. in order to provide high contrast, as taught by Mitani et al. (col. 1, ln. 38-39).

Re claim 25, Berge et al. further teaches for example in fig. 1 and 6, the housing (12) is shaped such that at least some ghost images do not reach image sensor (fig. 6).

Re claim 26, Berge et al. further teaches for example in fig. 1 and 6, a stop (16) arranged and configured to intercept at least a portion of ghosting occurring as a result of specular reflection of light by the housing (col. 6, ln. 46-47).

Re claim 27, Berge et al. further teaches for example in fig. 1 and 6, an image capture device (endoscope; col. 7, ln. 15).

Re claim 28, Berge et al. further teaches for example in fig. 1 and 6, portable telecommunications apparatus (optoelectronic system with minute lens; col. 7, ln. 12-15).

2. Claims 9-11, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berge et al. (6369954) in view of Mitani et al. (5612085) in further view of Bartels (6473543).

Re claim 9, supra claim 6. Furthermore, Berge et al. further teaches for example in fig. 1 and 6, the lens comprises a housing (12) defined by at least one side wall having an optical axis extending longitudinally through the housing (fig. 1), wherein the chamber containing the fluids (11, 13), which are in contact over a meniscus (A, B).

But, Berge et al. in view of Mitani et al. fail to explicitly teach the lens further comprising at least one pump for altering the relative volume of each of the fluids.

However, within the same field of endeavor, Bartels teaches for example in fig. 2A-B, the lens further comprising at least one pump (24) for altering the relative volume of each of the fluids (fig. 2A-B).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Berge et al. in view of Mitani et

al. with the teachings of Bartels in order to control light beams at high frequencies, as taught by Bartels (abstract).

Re claim 10, Bartels further teaches for example in fig. 2A-B, the perimeter of the meniscus is constrained by the side wall (fig. 2A-B), and the at least one pump (24) is arranged to controllably alter the position of the meniscus (fig. 2A-B) along the optical axis by altering the relative volume of each of the fluids contained within the housing (fig. 2A-B).

Re claim 11, Bartels further teaches for example in fig. 2A-B, the perimeter of the meniscus is fixedly located on an internal surface of the housing (fig. 2A-B), and the at least one pump (24) is arranged to controllably alter the position of the meniscus (fig. 2A-B) by altering the relative volume of each of the fluids contained within the housing (fig. 2A-B).

Re claim 14, Bartels further teaches for example in fig. 2A-B, the outer wall of the housing (22) is provided with a diffractive structure (fig. 2A-B).

Re claim 15, Bartels further teaches for example in fig. 2A-B, the outer wall of the housing (22) comprises a blazed Fresnel structure (fig. 2A-B).

***Allowable Subject Matter***

Claims 19 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art taken alone or in combination fails to anticipate or fairly suggest the limitations of the claims, in such a manner that a rejection under 35 USC 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in dependent claims 19 and 20.

Specifically regarding claim 19, Berge et al. (6369954) teaches the state of the art of a variable focus lens.

But, Berge et al. fails to explicitly teach a combination of all the claimed features including a thin, light-absorbing layer is provided between at least the inner wall of the housing and an insulating layer provided thereon, as claimed.

Specifically regarding claim 20, Berge et al. (6369954) teaches the state of the art of a variable focus lens.

But, Berge et al. fails to explicitly teach a combination of all the claimed features including the optical properties of the inner wall of the housing, outside of the portion where the meniscus is contactable in operation, is altered such that isotropic scattering occurs, as claimed.

As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph P. Martinez whose telephone number is 571-272-2335. The examiner can normally be reached on M-F 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Joseph Martinez/  
Patent Examiner, AU 2873  
9-18-08